ABSTRACT

Mining area of Bukit Asam Ltd. Tbk. / PTBA Tanjung Enim Exploration Section located in Tanjung Enim Sub-district, Muara Enim Regency, South Sumatera Province. MT 4 / Swakelola III is one of exploration zone in the mining area in which the operation of coal exploration and blasting of overburden practices are implemented. Blasting is used to increase the production attainment through a good fragmentation result. Based on this particular problem, a research is conducted to understand the productivity of a drilling machine, the attainment of production targets and the level of fragmentation in the first place.

The objective of this research is to compare the production target and the factual result in the field of research, try to analyze the correlation between the production target and fragmentation level, understanding and observing the causes of exceeding fragmentation in the size of up to 130 cm, more than what it is expected.

Research method which is used in analyzing the problem is a literature study which is done in accordance with the research topic, in the form of books, thesis documents, references and datas which are collected from many working sections. Observation and field study, data processing and drafting.

The analysis result is that the productivity of the drilling machines' efficiency are amounted to 79,48% in which the attaintment is in the amount of 8023,52 BCM/day, thus the production target of 7280 BCM/day can be obtained, while it is failed to obtain the blastings because it can only fulfill 81,29% of theoritical volume in the amount of 6977,62 BCM/day hence the production target is not attained. The reason why the production targets are not fulfilled is because thhere is a huge fragmentation level on the blocks in the percentage of 18,71%. High amounts of rock resulted from the blasting process can be caused by the failure to conform with the appropriate direction in accordance with the rock layers of the blasting itself, and wrong-implemented powder factor in the amount of 0,27 kg/m^3.

In order to resolve this problem, the explosive material shall be increased thus the powder factor will also be increased in the amount of 0,3 kg/m^3. Through the increase of powder factor, the adjustment with the area and geometrical stemming in the blast. Proposed stemming is 2,4 m and the proposed area is 2,8 m. In the other hand, the adjustment of blastings direction, from N 70° E to N 131,5° E shall be implemented. In the new direction of blasting, the proposed pattern of blastings to increase it is the corner cut blasting pattern.